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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,943	12/31/2001	Ramesh Nallur	A-7597	2144

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EXAMINER

TEKLE, DANIEL T

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/038,943	Applicant(s) NALLUR ET AL.	
	Examiner Daniel Tekle	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/27/03; 05/14/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

PTG
10/27/06
Claim 1-3, 9, ¹¹⁻¹⁹~~10-19~~, 21, 23-37, 39, and 41-46 rejected under 35 U.S.C. 102(e) as being anticipated by Vallone et al (US 6847778).

Regarding claim 1: Vallone et al. discloses a method for providing trick mode functionality: (a) storing a video stream containing dependent frames in memory (**column 7 lines 26-28**); (b) storing information related to the video stream in memory (**column 7 lines 21-28**); (c) receiving a request for a trick mode operation (**column 7 lines 10-16**); (d) responsive to receiving the request for a trick mode operation, decoding a plurality of undecoded dependent frames corresponding to the video stream to create a decoded frame (**column 7 lines 29-42**); and (e) outputting the decoded frame (**column 7 lines 38-42**).

Regarding claim 2: Vallone et al. discloses a further repeating steps (d) and (e) until the trick mode operation is cancelled (**column 20 lines 32-47**).

Regarding claim 3: Vallone et al. discloses a determining whether the video stream includes independent frames (**column 7 lines 21-26**).

Regarding claims 9: Vallone et al. discloses all the future of the instant invention as discussed in claims 1; in addition wherein stream is received from a headend (**column 21 lines 44-54**).

Regarding claims 11-15: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein an index table, the related information comprises an index table, the index table identifies storage locations of respective frame start codes, the index table identifies frame types, the index table identifies times of when respective frames were stored (**column 7 lines 17-28**).

Regarding claims 16-17: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein identifies whether the video stream contain I-frames (**column 7 lines 21-26**); further the related information comprises packet identification codes (PIDS) (**column 7 lines 17-28**).

Regarding claims 18: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein the plurality of undecoded dependent frames are determined based at least in part on a type of the video stream (**column 7 lines 50-54**).

Regarding claims 19: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein the decoded frame is output a plurality of times (**column 7 lines 29-42**).

Regarding claims 21: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein a number of times that the decoded frame is output is determined based at least in part an a speed of the trick mode operation (**column 19 lines 51-65**).

Regarding claims 23: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein a number of times that the decoded frame is output is determined based at least in part on the plurality of undecoded dependent frames **(column 7 lines 7-16)**.

Regarding claims 24-25: Vallone et al. discloses all the future of invention as discussed in claim 1 and in addition the trick mode operation is a fast and rewind play mode **(column 18 lines 55-67)**.

Regarding claims 26: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition wherein a first tuner receives an analog video signal corresponding to a first video stream and a second tuner simultaneously receives a digital compressed stream corresponding to a second video stream **(column 4 lines 52-54)**; wherein the first video stream and the second video stream are annotated to facilitate future retrieval from memory **(column 4 lines 59-60)**; wherein the first video stream and the second video stream are stored in memory **(column 4 lines 59-60)**; and wherein at least one of the first video stream and the second video stream is output to a display device **(column 4 lines 57-58)**.

Regarding claim 27: Vallone et al. discloses all the future of invention as discussed in claim 1 and in addition an entry point for the trick mode operation is specified based on an elapsed normal playback time and/or a number of frames relative to a beginning of the video stream **(column 18 lines 55-67)**.

Regarding claims 28: Vallone et al. discloses all the future of invention as discussed in claim 1: in addition in response to the request a processor reads information in an index

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table, retrieves annotation data that correspond to the video stream, and determines an entry point for fulfilling the trick mode request (**column 18 lines 28-37**).

Regarding claims 29: Vallone et al. discloses a system for providing trick mode functionality comprising: memory for storing a video stream and information related to the video stream (**column 7 lines 26-28**); determination logic configured to determine whether a request for a trick mode operation has been received in connection with the video stream (**column 7 lines 7-16**); and decoding logic configured to decoded a plurality of udecoded dependent frames corresponding to the video stream responsive to the determination logic determining that the request for the trick mode operation has been received (**column 7 lines 29-35**); and output logic configured to output a decoded frame, wherein the decoded frame is created as a result to the decoding logic decoding the plurality of undecoded dependent frames (**column 7 lines 35-42**).

Regarding claims 30-34: Vallone et al. discloses all the future of invention as discussed in claim 29: in addition wherein the related information comprises an index table; wherein the index table identifies storage locations of respective sequence headers, identifies storage location of respective frame start codes, identifies frame types, and identifies time when the respective frames were stored (**column 7 lines 17-28**).

Regarding claims 35-36: Vallone et al. discloses all the future of invention as discussed in claim 29: in addition wherein the related information identifies whether the video stream contains I-picture and the related information comprises packet identification codes (PIDs) (**column 17-29**).

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Regarding claims 37: Vallone et al. discloses all the future of invention as discussed in claim 29: in addition wherein the plurality of undecoded dependent frames are determined based at least in part on a type of the video stream (**column 7 lines 50-54**).

Regarding claims 39: Vallone et al. discloses all the future of invention as discussed in claim 29 and in addition wherein a number of times that the decoded frame is output is determined based at least in part on a speed of the trick mode operation (**column 19 lines 51-65**).

Regarding claims 41: Vallone et al. discloses all the future of invention as discussed in claim 29: in addition wherein a number of times that the decoded frame is output is determined based at least in part on the plurality of undecoded dependent frames (**column 7 lines 7-16**).

Regarding claims 42-43: Vallone et al. discloses all the future of invention as discussed in claim 29 and in addition wherein the trick mode operation is a fast and rewind play mode (**column 18 lines 55-67**).

Regarding claims 44: Vallone et al. discloses all the future of invention as discussed in claim 29 and in addition wherein a first tuner receives an analog video signal corresponding to a first video stream and a second tuner simultaneously receives a digital compressed stream corresponding to a second video stream (**column 4 lines 52-54**); wherein the first video stream and the second video stream are annotated to facilitate future retrieval from memory (**column 4 lines 59-60**); wherein the first video stream and the second video stream are stored in memory(**column 4 lines 59-60**); and

wherein at least one of the first video stream and the second video stream is output to a display device **(column 4 lines 57-58)**.

Regarding claim 45: Vallone et al. discloses all the future of invention as discussed in claim 29 and in addition wherein an entry point for the trick mode operation is specified based on an elapsed normal playback time and/or a number of frames relative to a beginning of the video stream **(column 18 lines 55-67)**.

Regarding claims 46: Vallone et al. discloses all the future of invention as discussed in claim 29 and in addition wherein in response to the request a processor reads information in an index table, retrieves annotation data that correspond to the video stream, and determines an entry point for fulfilling the trick mode request **(column 18 lines 28-37)**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4-8, 10, 20, 22, 38, 40 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vallone et al. as applied to claim 1-3, 9-19, 21, 23-37, 39 and 41-46 above, and further in view of Aoki et al (US 6009231).

Regarding claim 4: Vallone et al. discloses all the future of the instant invention as discussed in claim 1 above except that it did not point out the video stream does not

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include independent frames however Aoki et al. discloses specifically the video stream using dependent frames (**column 7 lines 45-58**).

It would have been obvious to one ordinary skill in the art at the time of the invention to incorporate the video stream with out independent frame as taught by Aoki et al. into Vallone et al. in order to run special reproduction such as a reverse reproduction quickly.

Regarding claims 5-6: Vallone et al. discloses all the features of the instant invention as discussed in claim 4: in addition an independent frame is a frame that is coded using information only from itself and an independent frame is I-frame (**column 7 lines 17-20**).

Regarding claims 7-8: Vallone et al. discloses all the features of the instant invention as discussed in claim 4: in addition a dependent frame is that is coded using information contained in another frame and undecoded dependent frame are P-frames (**column 7 lines 45-58**).

Regarding claims 10: Vallone et al. discloses all the features of the instant invention as discussed in claim 1 except Vallone does not teach the exact range listed as "a memory is a non-volatile memory".

However, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to augment the range of Vallone et al. to combine a well known and old art of a non-volatile memory in order not to retain the stored information even when not powered.

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results to the contrary.

Regarding claims 20: Vallone et al. discloses all the future invention as discussed in claim 29 except Vallone do not teach "the decoded frame is output is determined based at least in part on an output picture rate".

However, it would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to augment the range of Vallone et al. to combine a well know and old art of "the decoded frame is output determined based on an output picture rate" in order achieved a stable picture quality at a fixed rate.

Therefore, the invention as a whole would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made, absent unexpected results to the contrary.

Regarding claim 22: Vallone et al. discloses all the future of the instant invention as discussed in claim 1 and 19 above except that it did not point out the plurality of times that the decoded frame is output is determined based at least in part on a ration of P-frames to B-frames in the video stream however Aoki et al. discloses video stream using P-frame and B-frames (**column 7 lines 45-58**).

It would have been obvious to one ordinary skill in the art at the time of the invention to incorporated the video stream with dependent frames as taught by Aoki et al. into Vallone et al. in order to run special reproduction such as a reverse reproduction quickly.

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Regarding claim 38: Claim 38 is rejected for the same subject matter as claim 20.

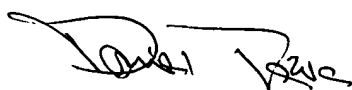
Regarding claims 40: Claim 40 is rejected for the same subject matter as claims 22.

Regarding claims 47: Claim 47 is rejected for the same subject matter as claims 1, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, and 23.

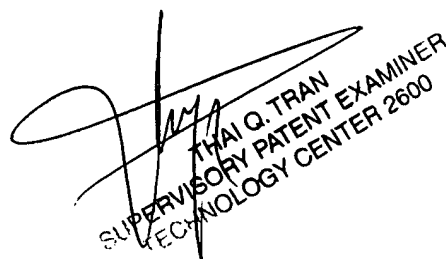
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel Tekle whose telephone number is 571-270-1117. The examiner can normally be reached on 7:30am to 5:00pm M-R and 7:30-4:00 Every other F..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Daniel Tekle
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